

REMARKS

The Applicant and his/her agent appreciates the courteous and complete examination of the application by the Examiner. In view of the foregoing amendments and the following remarks, a reconsideration of the instant application is respectfully requested.

In order to expedite the prosecution of this application, claims 5 and 13 have been canceled without prejudice or disclaimer of the subject matter thereof, in favor of Applicant's right to pursue the cancelled claims in a continuing application filed at a later date, thereby permitting the remaining allowed claims to issue as a patent. Claims 1, 3, 4, 7-9, 11, 12, 14-17 and 20 have been amended, and claims 21 and 22 have been added to more completely cover certain aspects of the Applicant's invention. Claims 1, 3, 4, 6-9, 11, 12, 14-17 and 20-22 are now in this application.

Regarding the Specification

1) The Examiner objected to the specification for informalities that have risen from the translation of the application.

In response to the Examiner's objection, the disclosure has been amended throughout to correct all informalities including typographical and grammatical errors resulting from the translation.

Regarding the Claims*Regarding the Claim Objection(s)*

2) The Examiner objected to claims 3, 9, 11 and 20 for informalities.

Claim 3 has been amended to change the phrase "the voltage signals as well as dead times" to "the voltage signals and the dead times", thereby removing the unclear language and overcoming this objection.

Claim 9 has been amended to change the phrase "the ballast is configured to generate" to "the ballast being configured to generate", as suggested by the Examiner thereby overcoming this objection.

Claim 11 has been amended to change the phrase "the voltage pulses as well as dead time" to "the voltage pulses and the dead times", thereby removing the unclear language and overcoming this objection.

Claim 20 has been amended to change the phrase "ignition of conduction of the fluorescent gas" to "igniting conduction through" and the phrase "at least on programmed function that supervise" to "at least on programmed function that supervises", thereby removing any unclear language and overcoming this objection.

Further regarding claim 20, the Examiner indicated that claim 20 recites "igniting conduction through". The Applicant respectfully believes that the Examiner may be in error, since the previous presented claim 20 recites "igniting conduction through". Therefore it is believed that this objection is moot.

Regarding the § 112 Claim Rejection(s)

3) The Examiner rejected claims 1, 3, 5, 7, 9, 14, 15 and 20 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claims 1 and 9, the Examiner indicated that the phrase "and at least on electrode including heating filament cathodes at ends" is unclear as to what "at ends" refers to.

In response to the Examiner's rejection, claims 1 and 9 have been amended to replace the unclear phrase "including heating filament cathodes" with "*at least one electrode located at ends of the fluorescent tubes, each of the electrodes includes heating filament cathodes*", thereby clearly referring the electrode to the ends of the fluorescent tubes and overcoming this rejection.

With regard to claim 3, the Examiner indicated that the claim appears to have been rewritten in 'passive voice' and is unclear if the ballast is doing the monitoring or if the dead times are simply by the ballast.

In response to the Examiner's rejection, claim 3 has been amended to remove all passive voice language, and to more clearly describe the programmed algorithm of the ballast as doing the monitoring, thereby overcoming this rejection.

With regard to claims 5 and 7, the Examiner indicated that the claims appear to have been rewritten in 'passive voice' and is unclear if the ballast is doing the "activating" or "modifying".

In response to the Examiner's rejection, claim 5 has been cancelled thereby making this rejection moot, and claim 7 has been amended to remove all passive voice language, and to more clearly describe the ballast as doing the activating and monitoring, thereby overcoming this rejection.

With regard to claim 14, the Examiner indicated that the limitation "the special couplings" lacks sufficient antecedent basis.

In response to the Examiner's rejection, claim 14 has been amended to depend from claim 13 which introduces the special couplings, thereby providing sufficient antecedent basis and overcoming this rejection.

With regard to claim 15, the Examiner indicated that the phrase "so that the current in the capacitor is reduced at its lower level..." is unclear if the current is in the capacitor or across the capacitor and if the current is reduced at its lower level or to its lower level.

In response to the Examiner's rejection, claim 15 has been amended to introduce the limitation of "*current in the capacitor*", thereby clearly identifying the current across the mercury vapor gas and in the capacitor and overcoming this rejection. Claim 15 has also been amended to change the phrase "reduced at its lowest level before the disconnection of such capacitor" to "*reduced to a lowest level of the capacitor before the disconnection of the capacitor*", thereby clearly describing the reduction level and overcoming this rejection.

With regard to claim 20, the Examiner indicated that the phrase "fluorescent gas" is unclear, the phrase "until a phenomenon of resonance is stable" is unclear as to what the phenomenon of resonance refers to, and the phrase "controlling a pre-heating...indifferent to temperature of the fluorescent gas" is unclear.

In response to the Examiner's rejection, claim 20 has been amended to change therethroughout the phrase "fluorescent gas" to "mercury vapor gas" as suggested by the Examiner, thereby overcoming this rejection.

Claim 20 has been further amended to include the phrase "*the phenomenon of resonance being a resonance effect in the mercury vapor gas that increases a number of collisions between the electrons and the mercury atoms*", thereby describing what the phenomenon of resonance refers to and overcoming this rejection. Support for this amendment is found on page 4, last paragraph and page 10, first paragraph.

Further regarding the Examiner's indication that it is unclear what "controlling a pre-heating...indifferent to temperature of the fluorescent gas". The Applicant respectfully directs the Examiner to page 10, second paragraph of the disclosure which states "Optimal operation is reached thanks to controlled pre-heating of cathodes and specific excitation mode during ignition of conduction of the vapor whatever the temperature in the tube". The disclosure thus supports the limitation of controlling a pre-heating of the cathodes as being indifferent (whatever) to the temperature in the fluorescent tube. The temperature in the fluorescent tube is any temperature and any time, not just the starting temperature. It is therefore believed that this rejection is moot, in light of support from the disclosure.

Regarding the § 103 Claim Rejection(s)

4) The Examiner rejected claims 1, 4 and 17 under 35 U.S.C. 103(a) as being unpatentable over Applicants Admitted Prior Art (hereinafter AAPA) in view of Lesea. The Examiner's rejection is respectfully traversed, because the combination of cited references does not teach the Applicant's invention as presently claimed.

With regard to independent claim 1 and in response to the Examiner's rejection, claim 1 has been amended to include the limitations of now cancelled claim 5, which the Applicant believes are not found obvious over the AAPA, Lesea and Lau references.

The AAPA, Lesea and Lau references do not disclose, teach or suggest couplings on each end of the fluorescent tubes that "*short cut the filaments of the electrodes of the fluorescent tubes*" so as to "*cancel current through the electrodes, and to thus avoid the loses in voltage*". The couplings disclosed in the prior art references

do not disclose the ability to short cut the current through the electrodes of the fluorescent tubes.

The Lau reference specifically states that the when "C(dv/dt) becomes greater or equal to the triac gate current, the triac switches on and essentially appears as a short" (col. 5, l. 45-48). In contrast with the claimed special couplings, the triac switch (126) is only a single switch located in the starter circuit (26) (Figs. 1 and 4; col. 2, l. 49-50), and not in each coupling associated with the filaments (18) of the tube (20).

Applicant respectfully reminds the Examiner that neither non-existent nor non-functional attributes of a prior art invention cannot be imparted onto Applicant's invention to find a case for *prima facie* obviousness. Lau does not have couplings at each end of the tube (20) which short cut the filaments (18) of the tube, nor can since Lau specifically uses a single triac switch (126) located in the starter circuit (26) which is separate from any couplings. In fact Lau teaches only that the "high frequency sinusoidal then passes through filament 18, capacitor 22, thermistor 116, triac 126 and back through the second filament 18" (col. 5, l. 26-29). Thus Lau not only has not taught an equivalent element in the fluorescent tube end couplings able to short cut the filaments, the argument of the Examiner that the Lau reference will function the same way is not possible. If anything, Lau teaches away from the current invention as one of ordinary skill in the art would be led to do the opposite of what the current invention has accomplished. One would not be led to believe that a single switch in a starter circuit could accomplish the use of a pair of couplings, one at each end of the fluorescent tube, each being able to short cut the filaments. Applicant respectfully maintains the Examiner has not proven a *prima facie* case for obviousness and request that the rejection be withdrawn.

Furthermore, if the Examiner proposes a modification of the AAPA, Lesea and Lau references to include the triac switches of Lau in the tube couplings then such modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification (MPEP 2143.01(VI)). *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Furthermore, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then

the teachings of the references are not sufficient to render the claims *prima facie* obvious (MPEP 2143.01(VI)). *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). Since the AAPA, Lesea and Lau references do not disclose, teach, or suggest the fluorescent tube couplings as being able to short cut the filaments, then any proposed modification by the Examiner of the prior art in a § 103 rejection of the claims would not be sufficient to render the claims *prima facie* obvious.

Still further and in combination with the above arguments, hindsight has been prohibited by the courts: "To imbue one of ordinary skill in the art with such knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540 1553 (Fed. Cir. 1983). "One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Fine*, 837 F.2d 1071 1075 (Fed. Cir. 1988). One "cannot pick and choose among individual parts of assorted prior art references 'as a mosaic' to recreate a facsimile of the claimed invention". *Akzo NV v. U.S. International Trade Commission*, 808 F.2d 1471 1481 (Fed. Cir. 1986) quoting from *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540 1552 (Fed. Cir. 1983).

Section 2143.03 of the MPEP requires the "consideration" of every claim feature in an obviousness determination. To render claim 1 unpatentable, however, the Office must do more than merely "consider" each and every feature for this claim. Instead, the asserted combination of the patents to AAPA, Lesea and Lau must also teach or suggest each and every claim feature. See *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) (emphasis added) (to establish *prima facie* obviousness of a claimed invention, all the claim features must be taught or suggested by the prior art). Indeed, as the Board of Patent Appeal and Interferences has recently confirmed, a proper obviousness determination requires that an Examiner make "a searching comparison of the claimed invention – including all its limitations – with the teaching of the prior art." See *In re Wada and Murphy*, Appeal 2007-3733, citing *In re Ochiai*, 71 F.3d 1565, 1572 (Fed. Cir. 1995) (emphasis in original). Further, the necessary presence of all claim features is axiomatic, since the Supreme Court has long held that obviousness is a

question of law based on underlying factual inquiries, including ... ascertaining the differences between the claimed invention and the prior art. *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966) (emphasis added). Indeed, Applicant submits that this is why Section 904 of the MPEP instructs Examiners to conduct an art search that covers "the invention as described and claimed." (emphasis added). Lastly, Applicant respectfully directs attention to MPEP § 2143, the instructions of which buttress the conclusion that obviousness requires at least a suggestion of all of the features of a claim, since the Supreme Court in *KSR Int'l v. Teleflex Inc.* stated that "there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR Int'l v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

In sum, it remains well-settled law that obviousness requires at least a suggestion of all of the features in a claim. See *In re Wada and Murphy*, citing CFMT, Inc. v. Yieldup Intern. Corp., 349 F.3d 1333, 1342 (Fed. Cir. 2003) and *In re Royka*, 490 F.2d 981, 985 (CCPA 1974)).

With regard to claim 4, this claim is felt to be patentably distinguish over the prior art references because of its above-mentioned dependency from amended claim 1.

With regard to claim 17, the Examiner did not specifically reject claim 9, which claim 17 depends from, in this group of rejections. The Applicant, to best available ability, will submit arguments as to the patentability of claim 17 with regards to a subsequent rejection to claim 9.

Claim 9, has been amended to further describe the fixture as being "*at each end of the fluorescent tubes*" and that each fixture is "*configured to short cut the filament cathodes of the electrodes of the fluorescent tubes respectively to cancel current through the electrodes and to thus avoid the losses in voltage*", as similar to the amendments to claim 1. The Examiner is directed to the above arguments to claim 1, regarding the lack of disclosure, teaching or suggestion by the AAPA, Lesea and Lau references in fluorescent tube fixtures being able to short cut the tube filaments.

Claim 17 is felt to be patentably distinguish over the prior art references because of its above-mentioned dependency from amended claim 9.

5) The Examiner rejected claims 3 and 11 under 35 U.S.C. 103(a) as being unpatentable over AAPA and Lesea as applied to claim1 above, and further in view of Ribarich et al. (hereinafter Ribarich). The Examiner's rejection is respectfully traversed, because the combination of cited references does not teach the Applicant's invention as presently claimed.

Claims 3 and 11 are felt to be patentably distinguish over the prior art references because of their above-mentioned dependency from amended claims 1 and 9 respectively.

6) The Examiner rejected claim 5 under 35 U.S.C. 103(a) as being unpatentable over AAPA and Lesea as applied to claim 1 above, and further in view of Lau.

Claim 5 has been cancelled thereby making this rejection moot.

7) The Examiner rejected claim 6 under 35 U.S.C. 103(a) as being unpatentable over AAPA and Lesea as applied to claim 1 above, and further in view of Bildgen. The Examiner's rejection is respectfully traversed, because the combination of cited references does not teach the Applicant's invention as presently claimed.

Claim 6 is felt to be patentably distinguish over the prior art references because of its above-mentioned dependency from amended claim 1.

8) The Examiner rejected claim 7 under 35 U.S.C. 103(a) as being unpatentable over AAPA, Lesea and Bildgen as applied to claim 6 above, and further in view of Toyama. The Examiner's rejection is respectfully traversed, because the combination of cited references does not teach the Applicant's invention as presently claimed.

Claim 7 is felt to be patentably distinguish over the prior art references because of its above-mentioned dependency from amended claim 1.

Furthermore, the Toyama reference does not disclose, teach or suggest the "*current crossing the capacitor is minimized*". In contrast, Toyama specifically describes

that the inductance (L_r) of the leakage reactor is minimized, and not the capacitor (126) (col. 7, l. 59-col. 8, l. 2).

As the Supreme Court recently explained "a patent composed of several elements is not proved obvious merely by demonstrating that each element was, independently, known in the prior art." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S., 82 U.S.P.Q.2d 1385, 1396 (2007). Moreover, "[r]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *Id.* (citing *In re Kahn*, 441 F. 3d 977, 988 (Fed. Cir. 2006) cited with approval in KSR). "To facilitate review, this analysis should be made explicit." *Id.* Furthermore, "[a] factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning. See *Graham*, 383 U. S., at 36 (warning against a 'temptation to read into the prior art the teachings of the invention in issue' and instructing courts to 'guard against slipping into the use of hindsight' (quoting *Monroe Auto Equipment Co. v. Heckethorn Mfg. & Supply Co.*, 332 F. 2d 406, 412 (CA6 1964)))." *Id.* at, 82 U.S.Q.P.2d at 1397.

9) The Examiner rejected claim 8 under 35 U.S.C. 103(a) as being unpatentable over AAPA and Lesea as applied to claim 1 above, and further in view of Katyl et al. (hereinafter Katyl). The Examiner's rejection is respectfully traversed, because the combination of cited references does not teach the Applicant's invention as presently claimed.

Claim 8 is felt to be patentably distinguish over the prior art references because of its above-mentioned dependency from amended claim 1.

10) The Examiner rejected claims 9 and 12-16 under 35 U.S.C. 103(a) for at least the same reasons as given above in the rejections of claims 1 and 4-8. The Examiner's rejection is respectfully traversed, because the combination of cited references does not teach the Applicant's invention as presently claimed.

Claim 9, has been amended to further describe the fixture as being "*at each end of the fluorescent tubes*" and that each fixture is "*configured to short cut the filament*

cathodes of the electrodes of the fluorescent tubes respectively to cancel current through the electrodes and to thus avoid the losses in voltage", as similar to the amendments to claim 1. The Examiner is directed to the above arguments to claim 1, regarding the lack of disclosure, teaching or suggestion by the AAPA, Lesea and Lau references in fluorescent tube fixtures being able to short cut the tube filaments.

Regarding claim 12, this claim is felt to be patentably distinguish over the prior art references because of its above-mentioned dependency from amended claim 9.

Regarding claim 13, this claim has been cancelled thereby making this rejection moot.

Regarding claim 14, this claim is felt to be patentably distinguish over the prior art references because of its above-mentioned dependency from amended claim 9.

Regarding claim 15, this claim is felt to be patentably distinguish over the prior art references because of its above-mentioned dependency from amended claim 9.

Furthermore, the Toyama reference does not disclose, teach or suggest the "*current crossing the capacitor is minimized*". In contrast, Toyama specifically describes that the inductance (L_r) of the leakage reactor is minimized, and not the capacitor (126) (col. 7, l. 59-col. 8, l. 2).

Regarding claim 16, this claim is felt to be patentably distinguish over the prior art references because of its above-mentioned dependency from amended claim 9.

11) The Examiner rejected claim 20 under 35 U.S.C. 103(a) as being unpatentable over AAPA, in view of Lesea, further in view of Bildgen, further in view of Sakurai et al. (hereinafter Sakurai), further in view of Ribarch, and further in view of Krummel. The Examiner's rejection is respectfully traversed, because the combination of cited references does not teach the Applicant's invention as presently claimed.

Regarding the Sakurai reference, this reference does not disclose, teach or suggest of "*allowing the current to decrease until a phenomenon of resonance is stable*". The Sakurai does disclose the general principle of a phenomenon of resonance wherein the emission of light is increased by the production of resonance in a lamp, but Sakurai does not disclose decreasing of current dependent of the stability of the phenomenon of resonance. The Sakurai reference does not use this phenomenon in combination with and in direct relation with the controlling (decreasing) of current.

Furthermore, the Sakurai reference does not disclose, teach or suggest "*increasing the number of collisions between electrons and mercury atoms by depending current intensity on the resonance effect*". As described above, the Sakurai reference only describes the general principle of resonance effect, and not how it can be used in direct relationship with the "*current intensity*".

Applicant respectfully reminds the Examiner that neither non-existent nor non-functional attributes of a prior art invention cannot be imparted onto Applicant's invention to find a case for *prima facie* obviousness. Sakurai does not have the decreasing of current in relation to the stability of the phenomenon of resonance. In fact Sakurai teaches only the definition of the phenomenon. Thus Sakurai not only has not taught an equivalent element in the dependent relationship of decreasing current and the phenomenon, the argument of the Examiner that the Sakurai reference will function the same way is not possible. If anything, Sakurai teaches away from the current invention as one of ordinary skill in the art would be led to do the opposite of what the current invention has accomplished. One would not be led to believe that the general principle of the phenomenon of resonance could be used in a direct relationship with the decreasing of current. Applicant respectfully maintains the Examiner has not proven a *prima facie* case for obviousness and request that the rejection be withdrawn.

Regarding the New Claims

12) The Applicant appreciates the opportunity to add new claims to the present application to cover certain aspects of the invention.

Claim 21 has been added to further describe the fixtures as being able to short cut the filament cathodes of the fluorescent tube.

Claim 22 has been added to further include steps of inserting the fixture and connecting the ballast. Support for these limitations is found on page 8, third paragraph of the present application.

Conclusion

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, the Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. The Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that the Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

Applicant has endeavored to address all of the Examiner's concerns as expressed in the Office Action. Accordingly, amendments to the claims, the reasons therefor, and arguments in support of patentability of the pending claim set are presented above. Any claim amendments which are not specifically discussed in the above-remarks are made in order to improve the clarity of claim language, to correct grammatical mistakes or ambiguities, and to otherwise improve the clarity of the claims to particularly and distinctly point out the invention to those of skill in the art. Finally, Applicant submits that the claim limitations above represent only illustrative distinctions. Hence, there may be other patentable features that distinguish the claimed invention from the prior art.

With the above amendments being fully responsive to all outstanding rejections and formal requirements, it is respectfully submitted that the claims are now in condition for allowance, and a notice to that effect is earnestly solicited. Should the Examiner feel that there are further issues which might be resolved by means of telephone interview, the Examiner is cordially invited to telephone the undersigned at (403) 444-5695, or email at davidguerra@internationalpatentgroup.com

A Request for Continued Examination fee of \$465.00, and a one month extension of time fee of \$75.00 are provided.

Respectfully Submitted,

/David A. Guerra/

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CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO, electronically submitted using EFS-Web, or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

On (Date) 01/27/2012 by David A. Guerra /David A. Guerra/